



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,112	08/20/2003	Ronald D. Blum	63049.000088	6506

7590 06/17/2005

J. Michael Martinez de Andino
HUNTON & WILLIAMS
Riverfront Plaza, East Tower
951 East Byrd Street
Richmond, VA 23219-4074

EXAMINER

SCHWARTZ, JORDAN MARC

ART UNIT	PAPER NUMBER
----------	--------------

2873

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,112

Applicant(s)

BLUM ET AL.

Examiner

Jordan M. Schwartz

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 33-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-27, 29, 30 and 34-36 is/are rejected.
- 7) ☒ Claim(s) 15, 28 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

For applicant's information, as stated in the prior office action, the IDS of August 9, 2004 has not been considered. Apparently the page citing the references is missing. It is suggested that applicant resubmit this IDS if applicant wants references cited therein to be considered.

Claim Rejections - 35 USC § 112

Claim 34 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claim 34, the claimed "electro-active element creates a diffractive effect" is not supported by the specification as originally filed. Specifically, while parent applications such as 10/046,244, which are incorporated by reference to the specification, support the lens further comprising a diffractive optical element i.e. a hybrid lens having both an electro-active element and a diffractive lens element, the examiner could not find support for the claimed "electro-active element creating a diffractive effect" and therefore this new limitation presents prohibited new matter. Since so many applications have been incorporated in by reference, if this limitation is supported by one of the parent applications, it is suggested that applicant specifically

point out where support for this limitation can be found. For purposes of examination the assumed meaning is "wherein the electro-active lens creates a diffractive effect".

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 25, applicant is claiming "non-conventional" refractive error and it is not clear what is specifically meant by this term rendering the claim vague and indefinite. The specification in paragraph 0032 describes "non-conventional refractive error...such as aberrations, irregular astigmatism, or ocular irregularities" and in paragraph 0034 describes "non-conventional refractive error can include..." and the claimed "such as" and "can include" renders the claim vague and indefinite. By stating "such as" and "can include" it is not clear what other refractive errors would be considered as "non-conventional" and the lack of clarity renders the claims vague and indefinite. For purposes of examination the assumed meaning of "non-conventional refractive errors" are refractive errors for aberrations, irregular astigmatism, and ocular irregularities.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 11-12, 16, 21-22 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Gallorini et al patent number 5,552,841.

Gallorini et al reads on these claims by disclosing the limitations therein including the following: a method of manufacturing an electro-active lens (column 1 line 5 to column 2, line 54, column 3, lines 21-42); providing an electro-active element (Figure 11, column 5, line 45 to column 6, line 37, lens elements 5x, 5y and the liquid crystal material within "101" as the "electro-active element" or just the liquid crystal material within "101" alone as the "electro-active element"); covering an exposed surface of the electro-active element to produce an electro-active lens (column 6, line 25 and Figure 11 with an exposed surface of the electro-active element "5X", "5Y", and the liquid crystal within "101" being covered with a polarizing plastic film "109", or if just "101" is the "electro-active element, then Figure 11 with an exposed surface of the electro-active element being covered with lens "5X" or "5Y"); the electro-active element comprising a plurality of pixels (column 2, lines 18-36, column 4, line 62); the electro-active lens capable of focusing an image (column 5, lines 4 and 45-64). The lens of Gallorini et al will inherently focus an image in ambient light, this being reasonably based upon Gallorini et al disclosing that the lens focusing an image as corrective lenses for myopia which lenses inherently correct in well lit and ambient lighting conditions.

Gallorini further discloses an exposed surface of the electro-active element covered with a lens blank (Figure 11 with the "electro-active element" as the liquid

crystal material within space "101" and being covered by lens blanks "5X" or "5Y"); the lens blank as a finished lens blank (column 5, line 4); the electro-active element connected with a controller (Figure 8, column 4, line 62); the electro-active element connected to a power source (Figure 8, column 4, line 60); the power source contained within the electro-active lens (column 1, line 45); the lens blank finished having an optical power equal to a wearer's distance vision prescription (column 5, line 4); and the lens blank as a finished lens blank with an optical power equal to zero (column 5, lines 55-60).

Claims 1-5, 11-12, 17-21, 23-27, 29-30, 34, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Meredith et al publication number 2005/0073739.

Meredith et al reads on these claims by disclosing the limitations therein including the following: a method of manufacturing an electro-active lens (abstract); providing an electro-active element (Figures 1-6, paragraphs 0020-0021); covering an exposed surface of the electro-active element to produce an electro-active lens (Figures 1-6, paragraph 0021 re covering "105"); the electro-active element comprising a plurality of pixels (Figure 6, paragraph 0067); the electro-active lens capable of focusing an image (paragraph 0020). The lens of Meredith et al will inherently focus an image in ambient light, this being reasonably based upon Meredith et al disclosing that the lens focusing an image as corrective bifocal or trifocal lenses (paragraph 0020) which lenses inherently correct in well lit and ambient lighting conditions.

Meredith et al further discloses an exposed surface of the electro-active element covered with a lens blank (Figures 1-6); the lens blank as a finished lens blank

(paragraph 0022); a recess in the front or rear surface for receiving the electro-active element (Figures 3-5); the recess formed by molding (paragraph 0043); the electro-active element connected to an electrical bus (paragraph 0059); the electro-active element connected with a controller (paragraph 0081); the electro-active element connected to a power source (paragraph 0040); the covering layer formed by molding or surface casting (paragraph 0043); the covering layer formed by conformal sealing (paragraphs 0039 and 0044); the covering formed by a lens wafer (Figure 1); the lens blank finished having an optical power equal to a wearer's distance vision prescription (paragraph 0022); the electro-active element providing a refractive change (paragraph 0047); the refractive change correcting non-conventional refractive error such as for higher order aberrations (paragraph 0047 re chromatic aberrations); the refractive change correcting for conventional refractive error as defined (paragraph 0022); the electro-active element connected to a view detector (paragraph 0080); and the electro-active lens creating a diffractive effect (paragraph 0020).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 11-12, 14, 23, 26-27 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piosenka et al patent number 5,359,444 in view of Gallorini et al

Piosenka et al discloses the limitations therein including the following: a method of manufacturing an electro-active lens (abstract, column 1, line 34 to column 2, line 11); providing an electro-active element (Figures 9-10, column 4, line 34 to column 5, line 9); the electro-active element comprising a plurality of pixels (Figures 9-10, column 4, line 34 to column 5, line 9); the electro-active element within an electro-active lens capable of focusing an image (column 1, lines 4-49). The lens of Piosenka et al will inherently focus an image in ambient light, this being reasonably based upon Piosenka et al disclosing that the lens focusing an image as corrective lenses which lenses inherently correct in well lit and ambient lighting conditions and further being based upon Piosenka disclosing using infrared for automatic focusing (column 5, line 51 to column 6, line 3) which would not be effected by lighting conditions.

Piosenka et al discloses as is set forth above including the conductive areas "52" and "53" formed on an interior surface of the element (column 4, line 37) but does not disclose covering an exposed surface of the electro-active element to produce an electro-active lens. Gallorini et al teaches that it is desirable to cover an exposed surface of an electro-active optical element with a polarizing film for the purpose of producing an electro-active lens of improved contrast (column 6, lines 25-29).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made for the element of Piosenka to further include as set forth above since Gallorini et al teaches that it is desirable to cover an exposed surface of an electro-active optical element with a polarizing film for the purpose of producing an electro-active lens of improved contrast.

Piosenka et al further discloses the electro-active element connected to a controller (column 5, line 10 to column 6, line 25); the electro-active element connected to a power source (column 5, line 10 to column 6, line 25); the power source connected to a temple of the spectacle frame (column 5, line 10 to column 6, line 25); the electro-active element providing a refractive change (column 5, line 10 to column 6, line 25); the refractive change correcting for a non-conventional refractive error of the eye such as myopia or presbyopia (column 1, lines 10-30, column 5, line 10 to column 6, line 25); and the electro-active element connected to a view detector (column 5, line 10 to column 6, line 25).

Claims 5-10 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallorini et al in view of Smarto patent number 6,213,602.

Gallorini et al discloses as is set forth above including the electro-active element used within an ophthalmic lens (Figure 1) but does not specifically disclose the element connected to an electrical bus, the bus as flexible, the bus at least partially encircling the element, the bus connected to a transparent lead in the periphery, the bus comprising a plurality of transparent radiating leads, or the bus bonded to the lens blank. Smarto teaches that in an electro-active ophthalmic lens comprising an electro-active element (column 1, lines 5-11, column 2, line 22 to column 3, line 9) that it desirable to use an electrical bus (column 2, lines 21-59), the bus as flexible (column 3, line 10, column 5, lines 28-35 re the specific metals claimed as flexible metals); the bus at least partially encircling the element (Figure 2, column 3, line 10), the bus connected to a lead in the periphery (Figure 2, column 3, lines 10-25), the bus comprising a

Art Unit: 2873

plurality of radiating leads (Figure 2 re leads "9" and "10"), and the bus bonded to the lens blank (column 1, lines 5-11, column 2, line 22 to column 3, line 25) for the purpose of providing the required electrical connection in an electro-optic device (column 1, lines 5-11). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the electro-active element of Gallorini et al as being connected to a bus bar and the bus bar having the specifics as stated above, since Smarto teaches of the desirability of using a bus bar with an electro-active element and for the bus bar to have the specifics set forth above for the purpose of providing the required electrical connection within the electro-optic element. The examiner takes Judicial Notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made for the electro-active lead to be transparent since the lead is being used within a transparent optical device for the purpose of having the lead as undetectable as possible. Therefore, it would have been further obvious to a person of ordinary skill in the art at the time the invention was made to have the lead as transparent for the purpose of having the lead as undetectable as possible. The examiner further takes Judicial Notice that it is well known in the field of electrical systems for bus bars to have a perforation within them for the purpose of providing a hole in which to connect the lead to the bus bar. Therefore, it would have been further obvious to a person of ordinary skill in the art at the time the invention was made to have a perforation within the bus bar for the purpose of providing a hole in which to connect the lead to the bus bar.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallorini et al in view of Gregory patent number 6,099,117.

Gallorini et al discloses as is set forth above including that the power source can be connected to the eyeglass frame (column 3, line 32) but does not specifically disclose the power source connected to a hinge or temple of the frame. Gregory teaches that in an electro-optical ophthalmic lens device having a power source (abstract, column 1, lines 6-14) that it is desirable to have the power source within a hinge or temple for the purpose of inconspicuously holding the power source on the frame of the lens (column 1, line 6 to column 2, line 54, column 3, lines 24-35). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the power source of Gallorini et al as connected to a hinge or temples of the frame since Gallorini et al discloses the power source on the frame and Gregory teaches that in an electro-optical ophthalmic lens device having a power source, that it is desirable to have the power source within a hinge or temples for the purpose of inconspicuously holding the power source on the frame of the lens.

Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallorini et al.

In reference to these claims, Gallorini et al discloses as is set forth above including the covering layer as a lens (Figure 11 with the liquid crystal material as the liquid crystal material being covered by lens elements 5X or 5Y) but does not specifically disclose the lens formed by molding, surface casting, conformal sealing, or as a lens wafer. The examiner takes Judicial Notice that it is well known in the art of ophthalmic

lenses to form such lenses by molding, surface casting, conformal sealing, or as a lens wafer for the purpose of providing an efficient way of producing ophthalmic lens elements. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the lens element of Gallorini et al as formed by molding, surface casting, conformal sealing, or as a lens wafer since it is well known in the art of ophthalmic lenses to form such lenses by one of these means for the purpose of providing an efficient way of producing ophthalmic lens elements.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piosenka et al in view of Nishioka publication number 2004/0179280.

Piosenka et al discloses as is set forth above including the electro-active lens providing refractive index changes (abstract) but does not specifically disclose the refractive index changing to correct for non-conventional refractive error (as this term is understood). Nishioka teaches that in an electro-optical element providing refractive index changes, that it is desirable for the index changes to correct for aberrations i.e. non-conventional refractive errors for the purpose of providing a lens of reduced aberrations and therefore increased performance (abstract, paragraph 229). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the electro-active lens of Piosenka et al as providing for a refractive index change to correct for non-conventional refractive error since Nishioka teaches that in an electro-optical element providing refractive index changes, that it is desirable for the index changes to correct for aberrations i.e. non-conventional refractive

errors for the purpose of providing a lens of reduced aberrations and therefore increased performance.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gallorini et al.

Gallorini et al discloses as is set forth above but does not disclose the electro-active lens (the assumed meaning) creating a diffractive effect. However, Gallorini et al discloses lenses 5X and 5Y as meniscus lenses and further discloses that these lenses provide optical correction and "can be any shape, selected and realized as a function of the specific requirements of each subject" (column 5, lines 45-65). The examiner takes Judicial Notice that it is well known in the art of ophthalmic lenses that such lenses can be formed as diffractive lenses i.e. providing a diffractive effect for the purpose of providing improved aberration correction. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have one or both meniscus lenses of Gallorini et al as diffractive lenses i.e. having the electro-active lens of Gallorini as creating a diffractive effect since it is well known in the art of ophthalmic lenses that such lenses can be formed as diffractive lenses for the purpose of providing improved aberration correction.

Allowable Subject Matter

The indicated allowability of claim 24 is withdrawn in view of the newly discovered reference(s) to Meredith et al set forth above.

Claims 15, 28, and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103. Specifically, with respect to claim 15, none of the prior art either alone or in combination disclose or teach of the claimed method of manufacturing an electro-active lens, specifically including, as the distinguishing feature in combination with the other limitations, the claimed power source connected to a hingescrew of the spectacle frame. Specifically, with respect to claim 28, none of the prior art either alone or in combination disclose or teach of the claimed method of manufacturing an electro-active lens, specifically including, as the distinguishing feature in combination with the other limitations, the claimed lens blank and electro-active elements providing the specific refractive error correction as claimed. Specifically, with respect to claim 33, none of the prior art either alone or in combination disclose or teach of the claimed method of manufacturing an electro-active lens, specifically including, as the distinguishing features in combination with the other limitations, the claimed electro-active element containing a plurality of pixels within a recess of the lens blank and the covering layer formed by way of curing an optical resin.

Examiner's Comments

For applicant's information, Meredith et al would have also either alone or with teaching references, made obvious a number of the above rejected claims, however, such rejections would have been repetitive.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is (571) 272-2337. The examiner can normally be reached on Monday to Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jordan M. Schwartz
Primary Examiner
Art Unit 2873
June 15, 2005